

A LIST OF THE SCARABAEOIDEA (COLEOPTERA) COLLECTED FROM LIGHTS AT PALM COVE AND ELLIS BEACH, NORTH QUEENSLAND

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Abstract

Twenty eight species of Scarabaeoidea are recorded from Palm Cove and Ellis Beach, north Queensland and their relative abundance noted. The known range of *Phyllotocus laterofuscus* Lea is extended southwards and the attraction of 5 species of Cetoniinae to light is noted.

Introduction

Palm Cove and Ellis Beach are two small tourist centres situated 25 and 27 km north of Cairns respectively, North Queensland. Both sites border the sea and share a similar coastal environment; predominantly scrub woodland, dry sclerophyll forest and rain forest confined to gullies and ravines leading down from the Great Dividing Range immediately to the west. Extensive areas of the narrow coastal plain to the west and south of Palm Cove are given over to residential development and sugar production. Insect trapping was confined to street and residential dwelling lights.

Collecting was carried out from June 1973 to January 1974 inclusive, each night at Palm Cove and once weekly at Ellis Beach. The occurrence of species was noted and data tabulated for the 28 species recorded. In the following list the term 'rare' indicates less than three specimens, 'few' three to ten specimens and 'common' more than ten specimens, taken during the period of collection. Dates of collection are given for 'rare' species, months only for others. As it was not possible to continue the survey beyond January 1974, species occurring up to that time are indicated in the list as 'still present'.

List of species

Species	Locality	Frequency
LUCANIDAE		
Lucaninae		
<i>Figulus regularis</i> Westw.	Palm Cove	5 Dec.-26 Dec. rare
<i>Metopodontus torresensis</i> Deyr.	Palm Cove	4 Jan. rare
GEOTRUPIDAE		
Bolboceatinae		
<i>Blackburnium reichei</i> Guer.	Palm Cove	31 Oct.-29 Nov. rare
<i>Blackburnium simpliciceps</i> Blkb.	Palm Cove	July, Sept., Dec. common
<i>Stenaspis albosetosus</i> Howden	Palm Cove	late Nov., Dec. few
SCARABAEIDAE		
Hybosorinae		
<i>Phaeochrous emarginatus</i> Cast.	Ellis Beach	17 Dec. rare
Scarabaeinae		
<i>Onthopagus consentaneus</i> Har.	Palm Cove	20 Dec.-18 Jan. rare
<i>Onthopagus latro</i> Har.	Palm Cove	Nov. - Dec. few
<i>Onthopagus muticus</i> Macf.	Palm Cove	26 Aug.-9 Sept. rare
Melolonthinae		
<i>Dermolida albohirtum</i> Waterh.	Palm C, Ellis Bch	June - Jan. still present; common

<i>Lepidiota bovilli</i> Blkb.	Palm Cove	Nov. - Jan.	still present; common
<i>Lepidiota consobrina</i> Gir.	Palm C, Ellis Bch	Oct., Nov.	few
<i>Lepidiota sororia</i> Moser	Palm Cove	16 Aug.	rare
<i>Lepidiota squamulata</i> Waterh.	Palm Cove	Oct.	few
<i>Phyllotocus laterofuscus</i> Lea	Palm Cove	18 Dec.	rare
Rutelinae			
<i>Anomala antiqua</i> (Gyll.)	Palm C, Ellis Bch	Oct., Nov.	common
<i>Anoplognathus boisduvali</i> Boisd.	Palm C, Ellis Bch	Nov. - Jan.	still present; common
<i>Anoplognathus nebulosus</i> Macl.	Palm Cove	28 Dec.	rare
Dynastinae			
<i>Dipelicus bovilli</i> (Blkb.)	Palm Cove	9 Aug.	rare
<i>Dipelicus optatus</i> (Sharp)	Palm Cove	9 Sept.	rare
<i>Neodon pecuarius</i> (Reiche)	Palm Cove	Nov. - Jan.	still present; few
<i>Xylotrupes gideon</i> L.	Palm C, Ellis Bch	Nov. - Jan.	still present; common
Cetoniinae			
<i>Hemipharis insularis</i> Gory & Perch	Palm Cove	16 Dec.	rare
<i>Ischiopsopha pulchripes</i> Thoms.	Ellis Beach	Dec., Jan.	few
<i>Ischiopsopha yorkiana</i> (Jans.)	Ellis Beach	23 Dec.	rare
<i>Limaptera cinnomonea</i> Thoms.	Ellis Beach	Dec., Jan.	still present; common
<i>Protaetia tibialis</i> Macl.	Palm Cove	14 Dec.	rare

Discussion

Of the 28 species recorded, 24 were found at Palm Cove and 10 at Ellis Beach. Six species were shared between the localities. A further melolonthine, *Lepidiota froggatti* Macl., not included in the list was collected from tide marks at Palm Cove, but is known to come to light in the area (J. G. Brooks, pers. comm.).

Small species (length less than 1 cm) were poorly represented, particularly from the Melolonthinae and Scarabaeinae. With the exception of a single hybosorine, *Phaeochrous emarginatus* Cast. from Ellis Beach, all small species listed were retrieved from a backyard pool at Palm Cove over which was mounted a fluorescent courtesy light.

The Rutelinae also were poorly represented. Carne (1957, 1958) lists a minimum of 23 species occurring in the coastal area of Innisfail - Cairns. Though most of these species would be diurnal plant feeders, many would be active at night and occur at lights.

All but one of the species listed from Palm Cove and Ellis Beach are within their previously recorded ranges. *Phyllotocus laterofuscus* Lea is previously listed only from the Endeavour River (Britton 1957). Thus, its capture at Palm Cove represents a southern extension of its known range.

The occurrence of five species of cetoniines at light was of particular interest to me as I was previously unaware of light attraction in this subfamily and Lea (1914) makes no mention of it. *Hemipharis insularis* Gory and Perch. and *Protaetia tibialis* Macl. were very active during daylight hours, and occurred only rarely at lights. *Ischiopsopha pulchripes* Thoms. and *Limaptera cinnomomea* Thoms. were observed only at lights. The latter species swarmed in extremely large numbers around a single light at Ellis Beach.

As no collecting was carried out from February to May much scope exists

for further additions to this list of both species and their times of occurrence.

Acknowledgments

I wish to thank my wife for valuable collecting assistance, Drs E.B. Britton, P. B. Carne and E. G. Matthews for identifications, Mr G. A. Holloway for allowing me to view the Coleoptera in the Australian Museum and Mrs B. E. Wilkinson for typing the manuscript.

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A NOTE ON THE BEHAVIOUR OF *PROTOMILTOGRAMMA* TOWNSEND (DIPTERA: SARCOPHAGIDAE)

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Little, if anything, has been recorded regarding the biology and habits of Australian species of sarcophagid flies belonging to the subfamily Miltogrammatinae. It therefore seems worth placing on record observations of adult specimens of *Protomiltogramma* seeking the subterranean nests of *Cerceris* sp. (Hymenoptera: Sphecidae).

Such behaviour was observed during January 1976 at Byfield State Forest, north of Yeppoon, Queensland. The flies were observed in wet sclerophyll forest along a seldom used fire road and were resting on grass stems approximately 150 mm above the ground, where they were quick to fly and investigate any insects that flew past. *Cerceris* sp. was nesting in tunnels along the fire road. Upon detecting a specimen of *Cerceris*, a fly would pursue the wasp, flying approximately 100-150 mm behind. If the wasp flew more than 10-12 metres, the fly would alight on a nearby grass stem and then wait before repeating the procedure. However, if the wasp entered its nest while being pursued, the fly would land on a grass stem about 100-150 mm away and wait while the wasp opened the nest and entered. When the wasp emerged from the nest, the fly would rapidly enter before the wasp had sealed the entrance. Upon the wasp returning and reopening the nest the fly would quickly exit.

At no time was a wasp seen to be carrying prey, and presumably the nests were already stocked.

Acknowledgements

I would like to thank the Queensland Department of Forestry for permission to study and collect insects at Byfield, Dr D. H. Colless for determining the fly, and Mr G. A. Holloway for determining the wasp.